UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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May 1, 2008

Gregory J. Thorpe, Ph.D.
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North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Subject: US 74 Shelby Bypass, Cleveland County
Final EIS; TIP R-2707
CEQ No.: 20080099; FHW-E40778-NC

Dear Dr. Thorpe:

The U.S. Environmental Protection Agency (EPA) Region 4 has reviewed the subject document and is commenting in accordance with Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA). The North Carolina Department of Transportation (NCDOT) and the Federal Highway Administration (FHWA) are proposing to construct a new location 4-lane freeway around the Town of Shelby in Cleveland County. The 18.2-mile new bypass freeway is proposed to address traffic capacity on US 74, mobility in the region, potential for future traffic congestion, improving safety and strengthening the economy of the area. This 'pipeline' project was placed in the NEPA/Section 404 Merger process in May of 1999 and included the selection of the Least Environmentally Damaging Practicable Alternative (LEDPA). On January 17, 2001, a meeting was held regarding avoidance and minimization (Concurrence point #4). The Draft Environmental Impact Statement (DEIS) was issued in October of 1998.

EPA provided DEIS review comments on the proposed project on January 22, 1999. NCDOT and FHWA have addressed EPA's comments in Chapter 6 of the FEIS, pages 6-9 to 6-18. EPA acknowledges NCDOT and FHWA's responses to EPA's comments concerning economic development, mass transit, HOV lanes, inclusion of a southern bypass alternative, and the need for a northern arterial facility, air quality issues, noise receptor impacts, relocation impacts, and water resource impacts.

In EPA's comments on the 1998 DEIS, Alternative 21 (Preferred alternative and eventual LEDPA) was given a rating of "EC-2", Environmental Concerns, more information required. While some of EPA's concerns have been addressed since that time, there are several outstanding environmental concerns that EPA's continues to have regarding the proposed

project. These environmental concerns are detailed in the attachment to this letter (See Attachment "A")

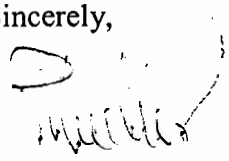
One of the difficulties in reviewing the FEIS included the presentation of the information. EPA understands that NCDOT and FHWA wanted to 're-fresh' the public record because of the time period since the 1998 issuance of the DEIS. However, the information presented concerning impacts and the Tier 1 Alternatives, Tier 2 Detailed Study Alternatives, and the Preferred Alternative made certain issues more confusing. Tables S-1 (Alternative #21 – Preferred) and S-2 should have been compared to one another to see the changes that have occurred since additional design work has been completed and additional avoidance and minimization measures implemented. For the text of the impacts in Section S.8, the ranges of the impacts between the earlier "Tier 2" alternatives does not provide any helpful information that could not be accomplished through a table such as Table S-1. Furthermore, Table S-2 provides impacts to certain resources such as streams and wetlands in a new form: right-of-way limits versus construction limits. Most permitting and resource agencies are only concerned with what aquatic resources are actually impacted (i.e., Filled, drained, piped, ditched, etc.). Aquatic resources that are un-impacted but are included within the right-of-way required for the project are not typically included in impact calculations. Similarly, impacts to other resources were prorated using the original 1000-foot corridor widths and not based upon currently proposed right-of-way widths required for the project (e.g., Agricultural lands and terrestrial forests).

EPA also notes that a substantial portion of the data in the FEIS, including wetland and stream information, was based upon 2001 data and not more current guidance and requirements. EPA's records also indicate that CP 4B and 4C meetings were held on portions of the project on March 17, 2004 and May 19, 2004. All data and information for this project should be updated to current requirements and accepted methodologies in the Record of Decision (ROD). Because of the length of time from pre-Merger 01 NEPA/Section 404 guidance (i.e., CP #4 in 2001) and that several sections of the project are not funded or proposed for funding until after Fiscal Year (FY) 2013, EPA requests that NCDOT and FHWA put those portions of the project in the Merger 01 process at Concurrence Point 4A, Avoidance and minimization, to insure that the most current guidelines and requirements are being addressed and documented.

In summary, EPA continues to have substantial environmental concerns with stream impacts, water quality impacts, air quality impacts (including Mobile Source Air Toxics – MSATs), prime farmland impacts and indirect and cumulative impacts. NCDOT and FHWA should consider the issuance of a FEIS re-evaluation considering that some of the information and requirements that have not been updated in the current FEIS.

EPA recommends that (unfunded) portions of this project be included in the Merger 01 process at Concurrence Point 4A, avoidance and minimization. Please continue to include EPA through the hydraulic and permit review stages as well, including the detailed avoidance and minimization efforts for stormwater management and the use of Best Management Practices (BMPs). Please include Ms. Kathy Matthews of EPA's Wetlands Section on any Concurrence Point 4B and 4C meetings in addition to any activities in developing a mitigation plan. Should you have any questions about EPA's comments, please contact Mr. Christopher Militscher on my staff at (919) 856-4206 or by e-mail at: militscher.chris@epa.gov.

Sincerely,



Heinz J. Mueller
Chief, NEPA Program Office
Office of Policy and Management

cc: K. Jolly, USACE Wilmington District
J. Sullivan, FHWA-NC
P. Benjamin, USFWS-Raleigh
B. Wrenn , NCDENR-DWQ

ATTACHMENT A
US 74, Shelby Bypass, Cleveland Counties
TIP# R-2707

Specific Comments on FEIS

Project Description and Purpose and Need

The document is unclear about the exact length of the proposed freeway. On Page 2-48, Table 2-10, the total length of the project based upon the project phasing for the 5 phases of R-2707 (A thru E) is estimated by EPA at 18.2 miles. Phases D and E are unfunded (i.e., Post year, after FY 2013). Phase C is only funded in the TIP for right-of-way acquisition in FY 2012. The Record of Decision (ROD) should clearly state the length of the new freeway.

The land required for the proposed project would be approximately 1,000 acres, which is 0.33% of the total land area of Cleveland County. It is also important to note that there are two existing US 74 routes through Shelby, the US 74 Bypass and US 74 Business. The proposed full-control of access, multi-lane freeway is a longer, northern US 74 bypass.

Exhibit 2-16 provides Year 2025 AADT volumes for the Preferred Alternative (i.e., Alternative #21). On page 2-46 of the FEIS there is also a discussion concerning the updated traffic estimates from the DEIS which used 2020 traffic numbers. Projected traffic numbers increased based upon the 2020 to 2025 update, except for the bypass segment from NC 150 to the eastern bypass terminus (i.e., 33,300 AADT to 30,900 AADT). However, EPA recommends that all projected traffic volume estimates should be updated to Year 2030 or 2035. Accident data and analysis is also from the period of 2000 to 2002 and needs to be updated.

EPA believes that there is adequate traffic justification (i.e., Future traffic congestion, improving safety, regional improvements to a Strategic Highway Corridor, etc.) for the proposed controlled access freeway without the secondary purpose of economic development (Pages 1-6 to 1-10, 1-25, et al.). While regionally there may be some tangible benefits in terms of reduced costs for travel time, etc., locally there may be adverse economic effects to local downtown businesses in Shelby and the loss of a portion of the tax base from the relocation of 165 residences and 25 businesses. This freeway is proposed as a fully controlled access facility and may not enhance re-development except potentially at interchange locations. Without conducting an in-depth economic development and land use study, many of the 'benefit issues' identified in the FEIS do not appear to be supported by currently available studies or reports.

Project Alternatives and the Least Environmentally Damaging Preferred Alternative (LEDPA) or Preferred Alternative

EPA does not have any major environmental concerns regarding the alternatives carried forward for detail study (Tier 2) in the DEIS/FEIS or the corridor selection of the LEDPA (Alternative #21). However, much of the data and assumptions made for avoidance and minimization to wetlands and streams, other natural resources and human resources were made in 2001. The FEIS does not address these assumptions or address the potential need to re-visit

issues based upon new information or requirements, including the 2005 Merger 01 NEPA/Section 404 guidance.

There are eight (8) interchanges proposed for the project including SR 1162, US 74 Western Bypass terminus, SR 1313, NC 226, NC 18, NC 150, US 74 Eastern Bypass terminus and SR 2245. From Exhibit 2-16, the proposed interchanges at SR 1162 and the Western Bypass Terminus appear to be very close (Approximate scale 1" = 5,000 feet and measured distance is approximately a quarter of an inch or approximately 1,250 feet).

Eight (8) interchanges, including 6 local access interchanges for the preferred alternative (Alternative #21) is more than a number of the other alternatives considered, including Alternatives 1, 3, 7, 9, 13, 16, and 19. EPA reviewed Table 4-26, page 4-124 of the FEIS, where the types of each interchange are presented for all of the alternatives. EPA is primarily concerned with the impacts to the human and natural environment at the diamond interchange at SR 2245 (Rural residential/some agricultural uses), and the partial cloverleaf at SR 1162 (Rural agricultural/scattered residences). Interchanges at these rural locations can also cause potentially indirect and cumulative impacts to resources around these interchanges. EPA requests that NCDOT and FHWA provide detailed updated traffic justification for both of these interchanges. Both of these interchanges extend beyond the two new interchanges proposed along the existing US 74 corridor at the western and eastern termini.

Stream and Wetland Impacts

EPA provided a letter to the Army Corps of Engineers (ACE) dated May 10, 1999, on the public notice on the DEIS. None of the comments specifically identified in this letter are included in the FEIS.

Wetlands impacts from the preferred alternative are relatively low at 2.37 acres (based upon construction limits). EPA is uncertain as to the difference between this estimated construction impact and the projected 3.07 acres of right-of-way impacts. For consistency purposes, NCDOT and FHWA typically report the estimated impact based upon the construction limits (cuts and fills) plus 25 feet beyond slope stakes lines. Wetlands that are near the construction limits and may be drained from cut sections are also calculated in the impact total. Not all of the proposed 320-foot right-of-way is expected to be cleared. EPA is unsure what this new category of right-of-impact means in relation to the construction impact or what will be included in the as the final impact numbers for the 404 or 401 permits.

Similarly, stream impacts were reported with right-of-way limits and construction limits. For right-of-way impacts the total is 24,054 linear feet with 21,940 linear feet being "mitigable". The construction limit impact total is 18,389 linear feet with 16,786 "mitigable". EPA reviewed the FEIS text, Tables D-1 and D-2, including the notes on S-5 in Table D-2, and can not find the specific 'design' definition for either. This was apparently an early 'Merger CP #4' effort to specify the typical difference between impacts based upon proposed right-of-way limits and anticipated construction limits using preliminary and/or functional designs. However, at this point in the NEPA process, NCDOT and FHWA should have more final design plans and should

be able to provide the actual estimated impacts based upon the construction limit slope stakes plus 25 feet.
Based upon a general comparison to other projects in the Piedmont on new location, the proposed Shelby Bypass has high impacts to streams in the project area (i.e., Greater than 1,000 linear feet per mile of roadway improvement). EPA would request that additional avoidance and minimization to streams be considered by the agencies.

The FEIS lists four streams that are on the Section 303(d) list for impaired streams, including Brushy Creek, Beaverdam Creek, Buffalo Creek and Lick Creek. There is no discussion concerning the implications of potential impacts to these already impaired waters of the U.S. Based upon more recent DWQ data (2008) on 303(d) listed waters in North Carolina, Buffalo Creek and First Broad River is listed and not Brushy Creek, Beaverdam Creek and Lick Creek. NCDOT and FHWA need to correct and/or clarify this information and develop a detailed stormwater management plan that eliminates further degradation to any 303(d) listed streams. EPA also notes that hazardous spill catch basins may be required by DWQ at the First Broad River crossing. Combined stormwater retention and hazardous spill catch basins should also be considered in the final designs. The administrative record and potentially the ROD should include appropriate environmental commitments to protect downstream water quality for 'confirmed' 303(d) listed streams.

EPA also notes that NCDOT used the DWQ Wetland Rating system and another consultant developed wetland assessment method from the 1990's. Due to the relative small impact to wetlands for the proposed project, EPA is not requesting a quality re-assessment based upon more current methodologies. However, this 'pre-Merger 01' assessment illustrates EPA's concern that the project's avoidance and minimization efforts have not been brought up to more current guidance and requirements.

It is also important for EPA to emphasis the new guidelines concerning jurisdictional determinations to waters of the U.S. and that NCDOT and FHWA should confirm the jurisdictional determinations that were made for the impacted streams and wetlands. Ms. Kathy Matthews of EPA has previously forwarded the new jurisdictional form and instruction manual to NCDOT. Depending upon the time of permitting, NCDOT may be required to adhere to the new guidance and requirements by the ACE.

Additional Avoidance and Minimization Measures for Streams and Wetlands

EPA requests that NCDOT and FHWA specifically identify what additional avoidance and minimization opportunities there maybe to reduce impacts to streams in the project study area and that these measures should be included in the final designs. It is important to note that stream impacts associated with the two SR route interchanges could be reduced and/or eliminated depending upon the current traffic need for these proposed facilities. Retention basins and other strict adherence to Best Management Practices (BMPs) will also be needed to protect critical water supply waters and 303(d) listed streams.

EPA acknowledges the environmental commitment to provide 2:1 side slopes in wetland areas, the use of native vegetation to stabilize banks, and stream relocation efforts (Tributary to

Buffalo Creek and a tributary to the First Broad River). NCDOT and FHWA should also consider median reductions at bridge crossings to minimize the construction footprint of the proposed project. The NCDOT is using a 320-foot right-of-way width as the 'minimum' roadway design criteria for a new location freeway. Most new location, multi-lane facilities planned and implemented in the last 5-7 years have a right-of-way width of 300 feet or less.

Stream and Wetland Mitigation

In the Environmental Commitments ("Green sheets"), pages 1 and 2 of 5, NCDOT and FHWA exclude EPA concerning discussions about wetland and stream relocations and mitigation and the development of mitigation plans. EPA has been involved in this project since the issuance of the DEIS. NCDOT has acknowledged EPA's DEIS comments and responded to comments in the FEIS. EPA has attended the CP 4B and 4C meetings for the "A" section of the proposed project. EPA requests that it be included with other resource and permitting agencies on all issues pertaining to either on-site mitigation and/or the development of all compensatory mitigation plans for jurisdictional impacts to wetlands and streams under Section 404 of the Clean Water Act.
Specifically, Ms. Kathy Matthews of EPA's Wetland Sections should be contacted regarding these matters and the Environmental Commitments revised to include EPA.

Due to the significant amount of stream impacts from the proposed project, EPA requests that detailed coordination on compensatory mitigation plan efforts be commenced as soon as possible. The FEIS lacks a detailed discussion concerning compensatory mitigation. On pages 4-109 and 4-112 of the FEIS, there are misleading statements concerning compensatory mitigation. In Section 4.13.2, Stream Impacts, the first sentence states: "Impacts to streams are a jurisdictional issue for NCDENR". The language in this section of mitigation in the FEIS makes it appear that the U.S. Army Corps of Engineers and EPA have no jurisdictional role in compensatory mitigation for stream impacts. In the mitigation section of the FEIS there is a repeated discussion concerning avoidance and minimization, which is in the section before the mitigation discussion. This is confusing and has not been updated. Page 4-107 cites the 1997 Interagency Agreement Integrating Section 404/NEPA. This is an outdated agreement superseded by the 2005 Merger 01 NEPA/Section 404 Memorandum of Understanding (MOU). This section also references a copy of the merger agreement in Appendix A.2. Appendix A.2 contains agency coordination correspondence and some early CP #4 signed concurrence forms on avoidance and minimization. The signed forms reference avoidance and minimization measures are described in 'attached handouts'. These handouts are not included specifically in the FEIS.

EPA notes that NCDOT appears to have purchased the "International Paper" site (now called the Broad River site). This 1,079-acre site was investigated in the late 1990's for wetland and stream mitigation for the proposed project. However, at this time it appears to be proposed only for mitigation for the Dwarf-Flowered Heartleaf and is not included in the discussions for compensatory mitigation for streams and wetlands. Details of any future mitigation plans for this site in relation to stream and wetland impacts associate with the Shelby Bypass are not provided in the FEIS. There were potential opportunities for on-site or other wetland and stream restoration projects (in addition to preservation), but these issues are not discussed in the FEIS.

EPA refers specifically to the Item 32, page 18, of the 2005 NEPA/Section 404 Merger 01 MOU and Guidance Manual.

Noise Receptor Impacts and Noise Abatement

Based on the DEIS analysis the Preferred alternative would impact 147 noise receptors, of which 84 would approach or exceed FHWA Noise Abatement Criteria (NAC). Seven locations for noise abatement walls were evaluated and two of the barriers appear to be feasible (i.e., Barrier locations D and F). There would be 28 benefited receptors based upon the FEIS noise abatement analysis. Noise impacts in detail are discussed on pages 4-51 to 4-67 of the FEIS. The total impacted number of receptors exceeding NAC is now 68, with 40 total impacted receptors after abatement noise barriers (Table S-2).

Environmental Justice

EPA acknowledges the Executive Order 12898 Environmental Justice analysis that is provided in the FEIS at pages 4-31 to 4-32.

Air Quality and Mobile Source Air Toxics (MSATs)

In section 3.6.3, page 3-51, the FEIS includes the statement that the average route speed for the proposed project was assumed to be 55 miles per hour based upon the freeway nature of its design and was used in calculating future Carbon monoxide (CO) emissions. Considering other multi-lane, divided freeways in the North Carolina and Strategic Highways, this assumption does not appear to be supported by actually studies or available data for other expanded segments of the US 74 corridor. The design speed for this facility is 70 miles per hour (minimum: Table 2-2). The statement, "CO emissions also decrease at higher speeds because of more efficient engine operation", is also misleading to the public. Based upon USDOT and FHWA studies and reports, there is an optimum range concerning speed with engine efficiency and performance and CO and other pollutant emission rates. This discussion should be updated to include current information and requirements.

Table 4-9 of the FEIS includes future year CO concentrations in parts per million (one-hour) for 2 receptors using generic year 2020 traffic and year 2025 preferred alternative estimates. Future CO concentrations need to be updated to more current traffic forecasts for 2030 or even 2035. There are sections of the proposed project that are unfunded and post-year let beyond 2013. EPA requests that these analyses and comparisons to current NAAQS standards be updated to future traffic projections. Furthermore, EPA is uncertain as to the specific meaning of the environmental commitment on page 2 of 5 regarding future air quality ("Any future air quality analysis of this project will include a review of vehicle-mix percentages, given the industrial nature of portions of the project area"). This is a FEIS and there is typically no additional air quality studies conducted for projects after this stage in the NEPA process. This vehicle-mix percentages analysis should be conducted and provided to EPA prior to the issuance of a ROD.

The FEIS does not address any of the Clean Air Act requirements for evaluating MSATs. EPA also regulates air toxics from mobile sources (EPA issued a Final Rule on Controlling Emissions of Hazardous Air Pollutants from Mobile Sources, 66 FR 17229, March 29, 2001). The FEIS does not include FHWA's generic qualitative guidance on MSATs. Before the issuance of a ROD, EPA requests that NCDOT and FHWA address MSATs for the proposed project. This would include the description of the affected environment, an analysis of existing and future MSATs conditions, identification of any potential sensitive receptors, potential adverse impacts, and any proposed avoidance, minimization or mitigation for these adverse effects to sensitive receptors.

Prime Farmlands

The FEIS states that there are an estimated 258 acres of agricultural/cleared land impacts based upon prorated corridor data (Page vii, et al). On page xi, the FEIS includes the category of prime, important and unique farmland impacts for the preferred alternative to be an estimated 298 acres of prime farmland and 268 acres of important farmland, also based on prorated corridor data. EPA notes the environmental commitment regarding 'farmlands' on page 4 of 5. This commitment is potentially required for impacts to farmlands that are regulated under the Farmland Protection Policy Act of 1981. This includes prime farmlands, unique farmlands and farmlands of State-wide or local importance as per the regulations contained at Title 7, U.S.C. 658.

EPA is very concerned that the Natural Resource Conservation Service (NRCS) did not conduct an analysis of prime farmland soils in the project study area. Referring to the letter from August 23, 1996, in Appendix A.2, it is stated that due to a lack of soil information we cannot complete the AD-1006 form for the project. More than decade has transpired since this communication with NCDOT's consultant and there is no documentation that a re-analysis was requested by NCDOT and FHWA (excluding the NRCS's "no comment letter of November 30, 1998, on the DEIS). Soils information is provided in Sections 3.10 and 4.10, including Table 4-16, Estimated Special Status Farmland Impacts. EPA does not understand how this assessment was completed when NRCS did not apply the Land Evaluation Site Assessment criteria (LESA) and complete AD-1006 forms. There are no evaluation forms contained in the FEIS. There is no other information in the FEIS that indicates that a 'conforming' prime farmland assessment was performed by a competent agency or person. Specific impacts shown are approximated right-of-way impacts based upon prorated corridor values. These impacts estimates to 'potentially' protected farmlands are very significant (i.e., More than 560 acres or more than half of the total right-of-way acreage needed for the project). The local and regional economic effects due to direct losses to prime farmlands could be drastic and far-reaching. EPA requests that these issues be addressed and coordinated with NRCS and/or the NC State Department of Agriculture before a ROD is signed. EPA also anticipates that the impact to actual prime farmlands meeting NRCS criteria is potentially less than is being reported in the FEIS.

Critical Water Supply Watersheds

Exhibit 3-14 includes water quality features for the project study area (undated map). There are two distinct water supply watershed areas (WS-III CA; and protected areas) and two

critical areas shown in the Exhibit. It appears from the map that the Preferred Alternative corridor is within the critical water supply area known as NCS Kings Mountain Reservoir or Moss Lake. It is unclear from the review of the FEIS, pages 3-78 to 3-80 and pages 4-91 to 4-93 if the proposed freeway will have an impact on protected areas within the protected areas of the watersheds (quantified in acres). According to the FEIS, WS-III rules state that 'construction of new roads and bridges should minimize built upon area, etc'. EPA cannot specifically find what measures were developed or designed by NCDOT to minimize built upon areas within the WS-III protected areas. EPA acknowledges the general environmental commitment to sensitive waters, Item #3 on page 2 of 5. However, this general commitment does not specifically address how the proposed project minimizes 'built upon areas' within protected watersheds (e.g., Narrower right-of-way widths).

Other Potential Impacts

The FEIS provides a substantial amount of information and commitments regarding the Dwarf-flowered Heartleaf plants. NCDOT and FHWA appeared to have coordinated extensively with U.S. Fish and Wildlife (FWS) and other agencies regarding this threatened and endangered plant species.

EPA notes that the terrestrial forest impacts are estimated at 277 acres for the preferred alternative. The FEIS also includes an environmental commitment regarding wildlife passage at Brushy Creek (Item #6, Page 3 of 5). The design for the wildlife passage should also be coordinated with NC Wildlife Resources Commission (WRC) in addition to FWS.

Indirect and Cumulative Impacts (ICI)

The FEIS addresses ICI in Section 4.16. On page 4-138 on induced development potential, the FEIS states that the potential conflicts of interchanges with notable features can be ameliorated somewhat through use of minimization strategies. Some of these strategies are identified on page 4-139 and include: Set an acceptable threshold for wetland and floodplain loss or degradation (?); and require the implementation of least-invasive practices for sand and gravel mining. This entire ICI section needs to be revised to reflect more current conditions and understanding of natural and human resource impacts associated with new location bypass facilities. Table 4-29 of project-specific notable features is important information and should be retained for further ICI studies. Due to potential direct and indirect and cumulative impacts to 303(d) listed streams in the project area, EPA requests that a more quantitative ICI analysis be provided. EPA's requests that the quantitative ICI identify how these population trends might change with and without the bypass. The ICI should include an analysis of the potential long-term impact on Shelby's population, economic sustainability, water quality and water supply resources, changes in land use patterns, etc. Copies of the quantitative ICI information should be provided to Ms. Kathy Matthews and Mr. Militscher for review. On page 4-143, it indicates that direct impacts have been established by the design, but does not identify what level of design (preliminary or final) has been completed to this point in the NEPA process.